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Engineering Note

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Project: Dzero General Support
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Subject: Temperature and humidity monitoring at Dzero

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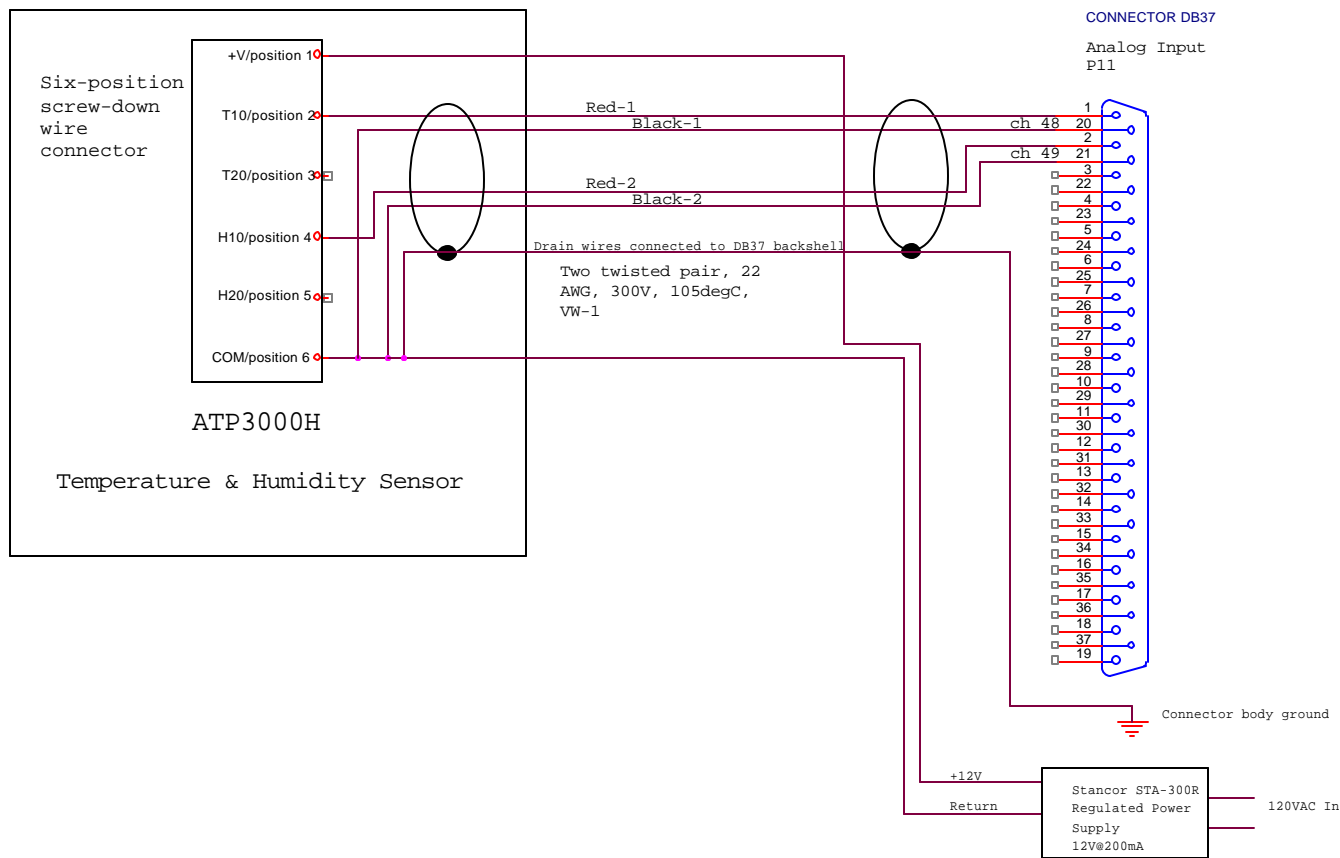
General Information

It has been proposed that temperature and humidity monitoring be added to each floor of the Moving Counting House as well as to the Center Platform. This document describes all the necessary parts, procedures and installation details to accomplish this task. The sensor chosen provides both temperature and relative humidity outputs and will be mounted in a single gang, weatherproof outlet box; it will then be attached to the top of a relay rack with Velcro. The output of each sensor will be connected to an analog input of a nearby rack monitor. The scale factor for the temperature output is 10mV/ °F ; the humidity output is 10mV/%RH.

Materials

Item	Part Number	Manufacturer	Purchased From
Sensor	ATP3000H	Automated Environmental Systems	Smarthome 800-762-7846
Connector	172-037-101-001	NorComp	Digi-Key
Backshell	970-037-020-121	NorComp	Digi-Key
Power supply	STA-300R	Stancor	Newark
Wire	1132202	Dearborn	Newark
Outlet Box	30209	Mulberry	Fermi stock

Schematic



Locations and Addresses

The priorities for choosing a location for the sensors was as follows:

- 1.) Located away from any direct air flow or ventilation.
- 2.) Short cable run between RM and sensor.
- 3.) Ease of installation and maintenance.
- 4.) Similar location between floors.

The following map is the result of these requirements.

Floor	Sensor rack	RM rack	RM connector used	RM	Node
MCH3	M300	M300	P11*	00	D00LCTL16 /ch4
MCH2	M200	M200	P11*	00	D00LCTL16 /ch2
MCH1	M100	M100	P11*	00	D00LCTL16 /ch1
Platform	**	PE02	P11*	05	D00LCTL18/ch5

*The analog channels used on P11(for all cases) are ch48 (\$30) for temperature (10mV/ °F) and ch49 (\$31) for relative humidity (10mV/%RH).

**Platform sensor is located on top of the steel at the East side of the platform.